Referent's information status, pitch accentuation, and gestural marking in children's narratives: a longitudinal perspective

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1. Introduction

Previous research has documented the link between referent's marking with gesture (e.g., Azar & Özyürek, 2016; So, Kita & Goldin-Meadow, 2013) and with pitch accentuation (e.g., De Ruiter, 2014; Grünloh, Lieven & Tomasello, 2014) both in adults' and children's narrative discourse. However, to our knowledge, no prior study has analyzed the link between referent's information status marking, pitch accentuation and gestural marking in children's narrative discourse from a developmental point of view. Therefore, the current investigation aims to answer whether a) the gestures which are prosodically aligned with pitch accentuation mark different referent's information status than the gestures that are not prosodically aligned and b) there are differences in these gesture-speech-information status patterns if we compare referential iconic gestures and non-referential beat gestures.

2. Methods

Eighty-three children from the Girona area of Catalonia took part in Vilà-Giménez, Florit-Pons, Gurrado, Rohrer & Prieto (in preparation) corpus of Catalan narrative speech development. The children were recorded at two different time points: 5 to 6 years of age (Time 1; $M = 5.9$; $SD = 0.55$), and two years later (Time 2; $M = 7.98$; $SD = 0.60$).

At age 5-6, children participated in a narrative retelling task, in which they were asked to watch two wordless cartoons and retell them to the experimenter. Two years later, the same children did the same task with the same cartoons they had watched at Time 1. For further details on the procedure, see Vilà-Giménez, Igualada, and Prieto (2019) and Vilà-Giménez and Prieto (in press, 2020). All in all, Vilà-Giménez et al.'s (in preparation) database contains a total of 332 stories (83 children × 2 stories × 2 time points), totaling approximately 166 minutes of speech.

To assess the alignment between gesture, pitch accentuation and referent marking, all target video-recordings were coded, on the one hand, in terms of gesture type, gesture phasing and information status. Each story was annotated following the Multimodal MultiDimensional (M3D) labeling scheme proposed by Rohrer et al. (2020). On the other hand, pitch-accented syllables were also annotated following Cat_ToBI (Prieto et al., 2015). Any overlap between the pitch accented syllable and the gesture stroke (i.e., the mandatory phase of the gesture (Kendon, 1980; McNeill, 1992)) was considered as a prosodically aligned gesture. After that, these gestures were analyzed to establish the link with referent's information status marking.

3. Results

The results for the current study are still being analyzed. First, previous results of the full dataset have shown that by the age of 5-6, children already temporally align gestures with pitch accentuation (between 75% and 85%), with no significant improvement from the first time

point to the second (see Florit-Pons, Vilà-Giménez, Rohrer & Prieto, 2020 for further information). Preliminary results of the pragmatic analysis (sample of 20 participants) reveal that manual non-referential gestures have a tendency to mark more discourse-new referents than discourse-given or discourse-accessible referents, while referential iconic gestures do not seem to show any clear pattern in terms of information status marking. These patterns of information status marking are already acquired by the age of 5-6 (see Figure 1). Further analyses will be carried out on the whole dataset to assess the relationship between gesture-speech alignment and information status.
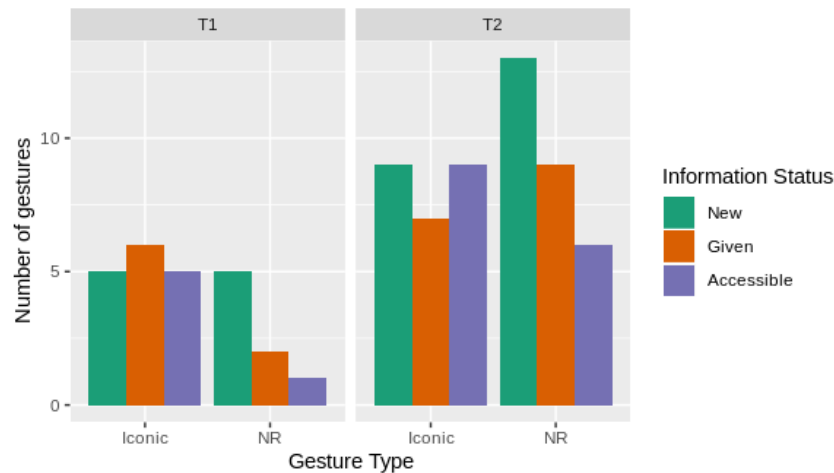

Figure 1. Marking of referent's information status by Gesture Type and Time

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